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HYDRO GEOCHEMICAL DISTRIBUTION DUE TO TSUNAMI WAVE IN THE WELIGAMA BAY AREA, SOUTHERN SRI LANKA

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Hydrogeochemical and the Water table behavior has been studied from March 2005, in the Weligama bay area, which situates in the tsunami affected zone of the southern coast, Sri Lanka (Lat 80.42. Long 5.97). Seventy affected shallow dug wells, by the Tsunami wave, situates in 8 km coastal strip, were selected for the study. The selected wells are sunk into the permeable quaternary sand deposits overlying Precambrian granite gneiss. The top quaternary sandy aquifer in the coastal margin of Weligama bay area is very permeable and hydro geological conditions are very favorable for salt-water intrusion. The study helped to prepare the hydro geological, and the hydro-geo-chemical maps of the area.

Prior to the Tsunami wave occurred on 26th December 2004, water of these wells were non saline and used by the people for drinking and other domestic purposes. The preliminary results of the study revealed that the Electrical conductivity of well water in all wells situate in the Tsunami affected Zone are turned to be saline (EC in average increases from 300 µ Siemens per cm to around 1300 µ siemens /cm.). Total dissolved solids of the well waters are around 1000 mg/L.

It could be concluded that the underground pressure wave which may have developed due to terror wave may have disturbed the freshwater/saltwater equilibrium resulting the mixing of fresh groundwater with saline water.

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